

ANG 6930: Life, the Universe, and Everything: A Seminar on the History of Life

"Life, the Universe, and Everything" is a graduate seminar aimed to bring together the student community at the Florida Museum of Natural History for interdisciplinary discussions. It is also open to other interested students. This term the seminar will focus on the origin and history of life, covering bacteria to humans, from the Big Bang to today. We will focus on historical patterns in organization and diversity, major evolutionary breakthroughs, using evidence from geology, paleontology, morphology, phylogenetics, and archaeology.

The following broad topics will be covered over the term:

- Big Bang, origin of galaxies, solar systems, planets, elements, molecules. Origin of life to cells.
- Diversity and evolution of prokaryotes
- Origin of photosynthesis, oxygenation of Earth
- Origin of eukaryotes, sex, phagocytosis, endosymbiosis of organelles, aerobic metabolism
- Origin of multicellularity, cell-cell signaling, Precambrian fossil record of multicellular life
- The Precambrian - Cambrian transition: changes in global environments, explosive radiation
- Diversity and evolution of protists
- Origin, diversification, and evolution of fungi
- Origin, diversification, and evolution of photosynthesizing organisms
- Origin, diversification, and evolution of animals
- Origin, diversification, and evolution of vertebrates
- Invasion of land - especially plants, fungi, vertebrates, insects
- Phanerozoic diversity patterns, originations and extinctions
- Origin, diversification, and evolution of mammals
- Origin, diversification, and evolution of anthropoids
- Origin and diversification of modern humans and cultures

For each topic we will read a paper or hear a mini-seminar and proceed with a broad, guided discussion of the paper/seminar and the general topic. Students signed up for credit will be expected to lead the discussion of one paper.

We encourage all grad students whose major advisor is at FLMNH to attend. Aside from the topics covered, this seminar will expose you to other lines of inquiry about the history of life, get you to meet and learn from your peers, and introduce you to integrative methods and potential collaborators. You can sign up for credit (ZOO 6927, equivalent BOT, GEOL, and ANTHRO course numbers are being set up), or to audit it.

The course meets 7th Per (1:55-2:45) on Fridays.

Faculty Leads:

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